

## CLAIMS

1) An inking and doctor unit for a rotogravure print and spread cylinder, comprising a casing (13); a doctor assembly (14); and an inking chamber (15) bounded by a concave inner surface (13a) of the casing (13) and at least partly by the doctor assembly (14); characterized in that the casing (13) and the doctor assembly (14) form a box body (18) closed except for one side engaging a print cylinder (2); and in that the doctor assembly (14) comprises a doctor (24) mounted to lie flat with respect to a lateral surface (11) of the print cylinder (2), when the box body (18) engages the print cylinder (2).

2) A unit as claimed in Claim 1, characterized by comprising first sealing means (21, 21a, 22, 22a; 19a, 20a) for hermetic connection to the print cylinder (2).

3) A unit as claimed in Claim 2, characterized in that the first sealing means (21, 21a, 22, 22a) are flat-surface sealing means designed to engage opposite end surfaces (10) of the print cylinder (2).

4) A unit as claimed in Claim 3, characterized in that said first sealing means (21, 21a, 22, 22a) comprise a first and a second plate (21, 22) fitted at opposite ends of the casing (13) and having respective sealing edges (21a, 22a) facing each other and arranged to slide on respective said end surfaces (10) when the box body (18) engages the print cylinder (2).

5) A unit as claimed in Claim 4, characterized in

that the first and second plate (21, 22) are movable with respect to the casing (13); and by comprising elastic means (21b, 22b; 50) associated with the first and second plate (21, 22) to press the first and second plate (21, 22) against respective said end surfaces (10) when the box body (18) engages the print cylinder (2).

6) A unit as claimed in Claim 2, characterized in that the first sealing means (19a, 20a) are radial sealing means shaped to engage the lateral surface (11) of the print cylinder (2).

7) A unit as claimed in Claim 6, characterized in that the first sealing means (19a, 20a) are carried by the casing (13), at opposite ends of the doctor assembly (14), and comprise sealing edges (19a, 20a) of the casing (13) shaped to slide on the lateral surface (11) of the print cylinder (2) along at least a predetermined arc, when the box body (18) engages the print cylinder (2).

8) A unit as claimed in any one of the foregoing Claims, characterized by comprising second sealing means (34, 35, 36) between the doctor assembly (14) and the casing (13).

9) A unit as claimed in Claim 8, characterized in that the second sealing means (34, 35, 36) comprise seals (34, 35) located at opposite ends of the doctor assembly (14), flush with a first and second lateral wall (19, 20) respectively of the casing (13).

10) A unit as claimed in Claim 9, characterized in that the second sealing means (34, 35, 36) comprise pads

(36) made of low-friction material, incorporated in the first and second lateral wall (19, 20) of the casing (13), and located at opposite ends of the doctor assembly (14); and pressure means (37, 38) for pressing the pads  
5 (36) against the opposite ends of the doctor assembly (14).

11) A unit as claimed in any one of the foregoing Claims, characterized by comprising third sealing means (32, 33) between a sealing surface (28a) of the doctor  
10 assembly (14) extending continuously along the whole width of the doctor assembly (14), and an edge (13b) of the casing (13) adjacent to the sealing surface (28a).

12) A unit as claimed in any one of the foregoing Claims, characterized in that the doctor assembly (14) is  
15 movable with respect to the casing (13).

13) A unit as claimed in Claim 11, characterized by comprising first adjusting means (27a, 28, 30; 28, 13c) for adjusting a relative position of the doctor (24) with respect to the casing (13).

20 14) A unit as claimed in Claim 13, characterized in that the first adjusting means (27a, 28, 30; 28, 13c) comprise a slide (28) sliding on a support (27a; 13c) and integral with the doctor (24); and actuating members (30) for moving the slide (28) with respect to the support  
25 (27a; 13c).

15) A unit as claimed in any one of Claims 12 to 14, characterized by comprising second adjusting means (27) for adjusting the pressure of the doctor (24) on the

print cylinder (2).

16) A unit as claimed in Claim 15, characterized in that the second adjusting means comprise a rocking member (27) connected to the doctor (24) and rotating about a regulating axis (C) parallel in use to an axis of rotation (A) of the print cylinder (2).

17) A unit as claimed in any one of the foregoing Claims, characterized by comprising a hood (17) designed to define, in use, a wetting chamber (39) about a portion of the lateral surface (11) of the print cylinder (2) extending substantially between a print area (8) and the inking chamber (15).

18) A unit as claimed in Claim 17, characterized by comprising first and second feed means (6, 7) for feeding a wetting fluid and a cleaning fluid respectively into the hood (17).

19) A rotogravure print and spread assembly comprising a print cylinder (2) having an axis of rotation (A); characterized by comprising an inking and doctor unit (3) as claimed in any one of Claims 1 to 18.

20) An assembly as claimed in Claim 19, characterized by comprising actuating means (4) for adjusting the relative position of the inking and doctor unit (3) with respect to the print cylinder (2).

21) An assembly as claimed in Claim 20, characterized in that the actuating means (4) comprise rotary actuating means (40, 45) for rotating the inking and doctor unit (3) about the axis of rotation (A) of the

print cylinder (2).

22) An assembly as claimed in Claim 20 or 21,  
characterized in that the actuating means (4) comprise  
first translatable actuating means (41) for translating  
5 the inking and doctor unit (3) in a first direction  
substantially perpendicular to the axis of rotation (A);  
and second translatable actuating means (4) for  
translating the inking and doctor unit (3) in a second  
direction substantially parallel to the axis of rotation  
10 (A).